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INSHORE SURVEY PROGRAM RESEARCH.(U)

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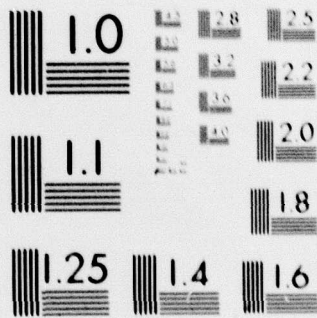
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✓ WOODS HOLE OCEANOGRAPHIC INSTITUTION

Woods Hole, Massachusetts

14 WHOI-Ref  -52-89

6 INSHORE SURVEY PROGRAM RESEARCH,  
conducted during the period

July 1, 1952 - September 30, 1952.

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9 Periodic Status Report No. 6, 1 Jul-30 Sep 52.  
Submitted to Geophysics Branch, Office of Naval Research  
Under Contract N6onr-277(2)(NR-084-008)

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Director

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- 1 -

The Contractor shall furnish the necessary personnel and facilities for and, in accordance with any instructions issued by the Scientific Officer or his authorized representative, shall conduct an oceanographic investigation of Boston Harbor.

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- 1 -

The Inshore Survey Project in the Boston Harbor area was pursued further during the quarter. The present report outlines the progress made under the headings below: *includes*

*progress notes on the following topics:*

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Reports Submitted

During the quarter the following reports were submitted under the contract:

Reference No. 52-38, Hydrographic Survey in the Boston Area, Bottom Photography (Confidential), Interim Report No. 7.

Reference No. 52-54, Inshore Survey Program Research conducted during the period April 1, 1952 - June 30, 1952 (Restricted), Periodic Status Report No. 5.

Reference No. 52-56, Hydrographic Survey in the Boston Area, Kullenberg Coring Operations (Confidential), Interim Report No. 9.

Reference No. 52-58, Hydrographic Survey in the Boston Area, HAZEL III - Cruise 12 (Restricted), Interim Report No. 10.

Reference No. 52-62, Two Deep Sea Cameras Assembled for Coastal, Harbor Survey and Mid-Level Photography, Interim Report No. 11.

Reference No. 52-69, Modification of Roberts Radio Current Meter for Use on the Bottom, Interim Report No. 14.

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Reference No. 52-73, A Reconnaissance Investigation of Acoustic Ambient Noise off Boston Harbor (Confidential), Interim Report No. 13. This report being a combined report for a Bureau of Ships contract as well as for this contract must be cleared through Bureau of Ships prior to its release. Advance copies have been sent to Bureau of Ships, Office of Naval Research, and the Hydrographer.

Informal progress reports have been submitted each month to the Hydrographer.

### Cruises

Two cruises were made in the area under study during the period:

HAZEL III - Cruise 15, 7-26 July  
HAZEL III - Cruise 16, 5-15 August

Cruise 15 completed the bottom sampling program in the Boston area. Two hundred and eight orange peel samples were obtained on this cruise. Hazy weather rendered abortive a sounding survey scheduled for Cruise 16. Additional salinity data in Boston Inner Harbor was obtained on these two cruises for use in flushing computations.

HAZEL III has been stripped of her oceanographic equipment and her contract terminated.

### Bottom Sediments

Results of the field analysis of the Kullenberg coring operation are reported in Reference No. 52-56.

Mechanical analysis of cores and orange peel samples is continuing. Preparation for organic analysis of samples is nearly complete. Mineralogical analysis of a representative suite of samples has been completed.

### Bathymetry

At our request the U. S. Coast and Geodetic Survey has undertaken a sounding survey of the areas of special interest.



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#### Bottom Photography

Results of HAZEL III - Cruise 11 have been reported in Reference No. 52-38.

Study of the stereobenthic and electronic-flash bottom photographs (HAZEL III - Cruise 13) has been completed. A second photographic report is being prepared. Messrs. Owen and Hammond have succeeded in collecting bottom photographs in the Chesapeake Bay and Delaware Bay areas for the respective contractors. Description of the underwater cameras employed is given in Reference No. 52-62.

#### Ambient Noise

Analysis of the ambient noise measurements collected during CARYN Cruise 30 in May is reported in WHOI Reference No. 52-73.

#### Magnetic Anomalies

Analysis of the magnetic anomaly survey made in HAZEL III in June is progressing under the direction of Mr. Miller at Lamont Geological Observatory. Several airplane flights carrying an airborne magnetometer have been made during the quarter in connection with another project.

#### Wave Measurements

The wave meter installed at Nahant is continuing to function satisfactorily. Visual examination and approximate measurement of the film and tape records associated with hurricane "Baker" indicate that, while waves up to ten seconds in period are quite common, only a few in excess of this period were noted. The maximum period appeared to be 12.3 seconds; maximum recorded height was six feet.

#### Bottom Current Measurement

The modification of the Roberts Radio Current Meter for use on the bottom has been reported in Reference No. 52-69.



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The equipment described has been loaned to the U. S. Coast and Geodetic Survey for use by the C. O., ships GILBERT and WAINWRIGHT, in Chesapeake Bay.

#### Properties of the Water

Distribution of temperature, salinity, and transparency in the Boston area as observed in early April was reported in Reference No. 52-62. Additional information was gathered during HAZEL III Cruises 15 and 16 in the Inner Harbor to provide information on the flushing rate during periods of low runoff.

#### Liaison, Visitors

Messrs. Owen and Hammond have obtained bottom photographs in the Chesapeake Bay and Delaware Bay areas for the groups studying those areas.

Messrs. Bumpus and Day assisted in part of a special current study in Chesapeake Bay undertaken by the Chesapeake Bay Institute.

Messrs. Bumpus and Day spent part of one day on board the HILGARD, Commander Kirsh, in Boston for orientation on the Roberts Current Meter.

The following persons connected with the Inshore Survey Program and associated problems have visited this Institution during the quarter:

Dr. J. C. Ayers	Cornell University
Mr. W. M. Blickenstaff	U.S. Navy Hydrographic Office
Comdr. Callahan, USN	U.S. Navy Underwater Sound Lab.,
with six members of the	Monterey, California, Post-
Graduate School.	
Captain F. B. Eggers, USN	Office of Naval Research, Boston
Lt. C. L. Gillis, USN	U.S. Navy Hydrographic Office
Dr. Steacy Hicks	Narragansett Marine Laboratory
Mr. A. R. Miller	Rutgers Group
Dr. C. F. Muckenhoupt	Office of Naval Research, Boston
Lt. L. F. Newcomb, USNR	Office of Naval Research, Boston
and U.S. Geological Survey, Boston	
Mr. C. Powers	Cornell University
Dr. D. W. Pritchard	Chesapeake Bay Institute
Dr. Paul F. Smith	prospectively of the Miami Group

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Dr. W. L. Tressler  
Dr. R. P. Whorf  
Mr. L. Williams

U.S. Navy Hydrographic Office  
Yale, Harbor Protection Project  
Office of Naval Research, Boston

Personnel

Those listed below have been actively engaged on the project, either whole or part-time:

William D. Athearn	Research Assist. in Geology
James R. Barker	Observer
John Bradley III	Seaman
Dean F. Bumpus	Oceanographer
Wm. S. Butcher	Geologist
David B. Clarke	Observer
John T. Connover	Chemist
C. Godfrey Day	Research Assistant
Willis T. Hammond	Research Assist. in Oceanography
Carlyle Hayes	" " "
Robert L. Hempstead	Captain, HAZEL III
James M. Kemp	Research Assistant
Frank J. Mather III	Research Associate
Richard Mellor	Observer
Robert F. Morrison	"
David M. Owen	Research Assist. in Oceanography
Gale G. Pasley, Jr.	Draftsman
Geoffrey G. Whitney, Jr.	Research Assistant



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